

# GEORGE EASTMAN, THE MAN BEHIND THE KODAK

First Authorized Account of Inventor Who Made Photography Available to Millions of Amateurs

IN a vague way it is known that George Eastman is the inventor of the kodak, that he built up the Eastman Kodak company, that he heads the story of his inventions, which have opened up the practice of the art of photography to millions of amateurs throughout the world, the public has been told little. This is due to the modesty of Mr. Eastman and the fact that he has directed the energies of his press agents entirely into advertising channels for the kodak and rigidly kept himself in the background. THE SUN, through the courtesy of Mr. Eastman, is enabled to print the full story for the first time.

When another hundred years have rolled around and the achievements of nineteenth century scientists have been sifted and weighed George Eastman will probably be placed alongside of Daguerre, L. J. M. Niepce and Nicéphore Niépce. He is like the man who cut away the underbrush on the edge of the forest, Eastman, swinging his axe into the wood, made the clearing and tilled the soil and reaped the harvest.

He not only invented his own processes but he had the business ability to market them, and in thirty years he has built up a corporation of \$35,000,000, enriched himself and enriched his friends with him. He has been a builder always, never a destroyer of business. In the course of the Eastman company's rise many other companies have failed or been absorbed by the Eastman concern, but they have never been crushed. His has not been the squeezing method.

He invented the film and the kodak, and created a demand for his goods, at the same time bringing out a product that was equal to all the claims made for it. Other concerns that have brought out photographic plates and materials of a good uniform quality and at moderate prices have succeeded as Eastman has and are to-day enjoying the benefits of the demand for the products created by Eastman's genius.

A man of medium height and medium build, hair turning white after 58 years of battling with life, but with quiet gray eyes still steadily and with unabated enthusiasm gazing out of large spectacles, any one with a legitimate purpose in visiting him may find him nine-tenths of the year at his magnificent home in East avenue, Rochester, or at the executive offices of the company in State street. Courteous in his address, he is uniformly kind to rich and poor. It was by appointment that THE SUN correspondent found Mr. Eastman on a recent morning and received from him the first accurate story of how he became interested in the dry glass plate process, which was his start in the field of photography. Heretofore he has absolutely declined to give his history, and even with his promise given to THE SUN Mr. Eastman might have been lost in the narrative, but for the persistency of the interviewer.

Rochester esteems Mr. Eastman as her leading citizen because he has contributed more toward her development than any other captain of industry. Rochester and kodak are synonymous terms. Besides Rochester has cause to thank him for his generous gifts. He has always been intensely public spirited and loyal to Rochester, and his gifts long ago passed the million mark.

At a critical time in the existence of the Rochester Athenaeum and Mechanics Institute Mr. Eastman made it a gift of \$200,000 and enabled it to become a great industrial educational school. When the University of Rochester desired to expand along scientific lines and to add to its old time classical curriculum courses in modern science that would place it on a par with other colleges Mr. Eastman came to the rescue and furnished the building which carries his name. Now, when the university is at its second period of expansion and is raising a \$1,000,000 endowment fund, although the fact has never been made public and officials refuse to confirm it, it is understood that half of this fund comes from Mr. Eastman.

In October, 1908, he presented \$50,000 to the Hahnemann Hospital in Rochester for the erection of new buildings for surgical purposes and in January, 1909, he made a gift of \$500,000 to the Rochester City Hospital, now the Rochester General Hospital, which enabled it to remodel its buildings and make large additions. With his accustomed modesty Mr. Eastman was well on the way to Europe when the gift was made public. The Homeopathic Hospital has an Eastman nurses' home, and his smaller gifts to charity and in aid of philanthropic institutions are numerous.

Of Rochester's immense park system, said to be one of the largest in the country, much is owed to Mr. Eastman. When Dr. H. S. Durand undertook to provide a park, Mr. Eastman, giving his own valuable lake-side farm as the nucleus of the park, to which Mr. Eastman added his share, forming the great Durand-Eastman Park, which connects Rochester with Lake Ontario.

When the city built Cobb's Hill reservoir property surrounding it was purchased by Mr. Eastman and presented to the city in order that this source of the city's drinking water should never be in danger of becoming polluted.

Besides being skilled in invention and a master of the photographic business Mr. Eastman is one of the most successful and ingenious advertisers in this country. He has a specially happy knack of his choice of trade names and phrases that have attracted attention all over the world and fixed themselves in the memory, never to be forgotten. The word kodak, said to be the best trade mark in the world, is of Mr. Eastman's own coining. It was devised to fill the requirement of a perfect trade mark. Mr. Eastman tried one name after another until he hit upon the combination of letters that met his needs, being short, snappy, incapable of being misspelled so as to destroy its identity, and at the same time not trivial, but vigorous. His phrase "You press the button and do the rest" has been called one of the best advertising phrases ever coined.

At the zenith practically of a notable business career, Mr. Eastman is still unspoiled and he takes his pleasures in his own quiet way. Perhaps the secret of the temperate qualities of his nature are found in a remark he made.

"When I left school I began work at \$3 a

week," he said. "My mother always taught me never to buy anything unless I could pay for it. And I never have. I have never run into debt."

"The money I started on was the money I saved out of my salary. When I needed more money I took in Mr. Strong. When the company needed more money than that we sold stock to shareholders. We never borrowed."

"There have been times, as in the early '90s, when we lost a great deal of money from various causes. We did not borrow then. We simply quit paying dividends."

"The stockholders did not like it, but it was better for them in the end. There have been at least two crises in the company's history when it would have had to go to the wall if it had been in debt."

Mr. Eastman has always found time in the midst of business affairs to devote some attention to social matters. He has never married. For many years his mother was the head of his household. In 1907 he erected in East avenue a mansion popularly said to have cost \$1,000,000. Mrs. Eastman died soon after it was built.

Here he often entertains visitors from Europe as well as from all parts of the United States. His business relations have brought him in close touch with men of social standing as well as financial influence in Europe and America.

He is very fond of music and maintains a string quintette, the members of which are connected with the local symphony orchestra and which plays for Mr. Eastman and his friends twice a week. He relies for exercise and recreation on a camping trip in the West in the late summer or fall and on some quail shooting in North Carolina, where he also goes in the spring for two or three weeks of saddle exercise. He is fond of riding and owns a farm and hunting lodge in Halifax county, N. C., containing about 2,500 acres. He is a member of the Genesee Valley Club and the Country Club of Rochester.

While he could never be induced to participate actively in political matters he has always been known as a strong Republican. In 1900 he was named as a Presidential elector at the Republican State convention and cast his vote for McKinley and Roosevelt.

Naturally Mr. Eastman is connected with many other local enterprises and serves as director in various banks. But his real work in finance has always been confined to the Eastman Kodak enterprises and his minor activities have been enlisted mainly to aid friends and associates in their other undertakings. Essentially he is a business man; never an idler. He has concentrated his life work on the upbuilding of the Eastman Kodak Company.

Mr. Eastman was born at Waterville, Oneida county, July 12, 1854. His father was George W. Eastman and his mother Maria Eastman. His parents moved to Rochester, where his father, who was a man of education and more than usual intelligence, established the Eastman Commercial College, a famous institution in the old days. The elder Eastman originated the scheme of teaching young men commercial practices by actual experience, believing that something more than theory was needed to equip a young man for the battle of life.

He died in 1890 and left Mrs. Eastman without property. George Eastman was 6 years old at the time, and his mother by much sacrifice kept him in the common schools until he was 14. Then he obtained a place as office boy with Cornelius Waydell, an insurance agent in the Reynolds Arcade. From there Mr. Eastman went to the office of Buell & Brewster, afterward Buell & Hayden, insurance agents. In 1874 he entered the Rochester Savings Bank as bookkeeper.

It was during his employment as a bank clerk, which lasted seven years, that he perfected a process of making photographic dry plates which later led to the invention of the film roll system, upon which were built in a little more than thirty years the corporations which are the Eastman Kodak Company of today.

After several years close confinement in the bank Mr. Eastman felt the need of a vacation and he cast his eyes about to see where he could find the enjoyment he sought. At that time it was during President Grant's administration there was a good deal of talk of the purchase of Samana Bay in Santo Domingo for use as a naval base. So it was to Santo Domingo that young Eastman finally planned to go for his vacation.

Full of his plans for his trip, he began to prepare his outfit. While telling his plans to a man employed as an engineer at the bank the engineer suggested that Mr. Eastman ought to take a photographic outfit along with him. It turned out that the engineer had been a member of a party sent out by the United States Geological Survey under Dr. Hayden and he told how the expedition carried an outfit and described it. It would be interesting and instructive, he said, to take the pictures and bring back photographs of the places Eastman visited to show his friends.

So interested did Mr. Eastman become in the idea that with his characteristic thoroughness he set about learning the rudiments of photography, a science then little known to amateurs. Then he bought a camera, one of the ordinary view type, and hired a local photographer to teach him the wet plate process. Glass plates had to be used in the camera and each plate had to be sensitized in the field, making it necessary to carry along a silver bath and a dark tent in which to carry out the delicate process of making the plates capable of receiving the image.

About the time Mr. Eastman was becoming versed in the dark room art he had to give up his vacation, being detailed on special work. But he was so fascinated by photography that he kept on with his study and finally took a short trip to Lake Superior. He had a chance to become familiar with the difficulties attending the transportation of the cumbersome outfit necessary to take the simplest photograph; an outfit that required one to have on hand corrosive solutions like nitrate of silver and water. The silver bath had to be carried in a glass tank with a watertight cover. The budding amateur made a special tank and to prevent it from breaking he wrapped it in his underclothing. Alas! the cover leaked, only slightly, but the result was disastrous.

Still in the bank's employ, he rented rooms in a small building in State street over Martin's music store. In the meantime he had invented a machine for coat-

ing plates with gelatin emulsion. In the early summer he had taken it to Europe and sold the patent for a sum that netted him \$1,200 after the expenses of the trip had been deducted. With this and the money he had saved out of his salary he fitted up the rooms he had hired as a small manufacturing plant.

Successful from the first, he soon had more than he could do, so he employed a young man to assist him. The helper worked all day and after banking hours Mr. Eastman worked also preparing the emulsion. During November and December, when Mr. Eastman had to work evenings in the bank, he toiled all night at the business, snatching a few hours sleep when he could get it and making up lost sleep on Sundays.

In the fall of 1881 the business had grown so fast that it was necessary for Mr. Eastman to leave the bank and give

at that time handling its product through the medium of a jobber who had agreed to take a certain amount of the plates every month. These were readily sold during the summer, but in the winter the jobber was overstocked, holding the excess product for the next summer's demand. Here the company ran into a problem which swallowed up its profits and brought to the front that characteristic of Mr. Eastman which has made for the success of the great corporation, the determination to place on the market only the best product or nothing.

Much to the surprise of the company, in the early summer of 1882 it began to receive complaints of the quality of the plates. On investigation and experiment it was found that the plates kept over the winter deteriorated. Only fresh plates were good. All the outstanding stock of the company was called

in and the replacing of the plates wiped out all the money the concern had made up to the time. A fresh start had to be made, but the sacrifice saved the reputation of the company.

The business of making glass dry plates had become overdone in 1884 because too many were going into the business. Eastman's originality again came to the fore and he started out to look for something that would be more of a specialty. In consequence of a conversation with a man who had been in the dry plate business and had gone out of it because of unsatisfactory condition Mr. Eastman determined to investigate the field of film photography. This man, William H. Walker, was employed by the Strong & Eastman Company to assist in experimenting. He and Mr. Eastman together invented a roll holder, and they about the same time invented a machine for applying emulsion to paper and started out with the scheme of film photography, using coated paper, which they could thus make cheaper in long lengths as desired.

In the meantime Eastman had invented an improvement on plain paper which enabled the negative image to be removed from the paper onto a backing of gelatin. This completed a system of film photography which was sufficiently attractive to find a ready market. It was put out in this country and Mr. Walker went to Europe and introduced it there.

At this time the infant company had a number of competitors who had taken up the process about the same time. The business was entirely new to everybody. The chemical reactions were not understood and the methods empirical to the last degree. No matter how much care manufacturers took with the making of plates, none of them had experience enough to enable him to be sure of the quality of the product.

The Strong & Eastman Company was

his undivided attention to the production of dry plates. More capital was also needed, so he interested Henry A. Strong, an old friend, who was then in the whip business as the principal member of the firm of Strong & Woodbury. Mr. Strong put in some money and acquired a half interest in the business, the firm being organized as the Eastman Dry Plate Company, Strong & Eastman, proprietors.

The company moved to larger quarters in the McAlpine Building. When the new firm was launched in 1884 it purchased property in what was then known as Vought street and is now Kodak street, the site of the present general offices of the Eastman Kodak Company. In the rear of this lot was erected a four story and basement factory which in 1883 was doubled in size.

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A Bank Clerk in Rochester When His Real Career Began—Personal and Business Characteristics

When Mr. Eastman began to experiment with the film photography it was not a new thing, experiments having been begun as far back as 1851. No such system had ever been introduced commercially however, for the reason that a satisfactory dry process was necessary, and the further reason that the roll holder apparatus was not practical. So up to the time it was undertaken by the Eastman company the field had lain unworked.

The first paper films put on the market had to be exposed by means of roll holders attached to the existing plate cameras. The exploitation of these holders in this country and Europe made a demand for something more portable and self-contained. This led to the production in 1888 of a camera known as the first kodak, which opened up the amateur field and for the first time made it possible for the novice to make successful pictures.

The first kodak was fitted for 100 exposures and took a picture two and a half inches in diameter. The camera was sent out from the factory loaded with the film and sealed and containing a brief instruction sheet.

This opened the practice of the art of photography to an entirely new class of people, in fact to the whole world. The only objection to it came from those who wanted to develop their own negatives. The paper film used required the image to be transferred to a sheet of gelatin, which was troublesome to the amateur; so the exposed film as a rule had to be returned to the factory for development.

Mr. Eastman had of course seen the desirability of a film roll with a transparent support which would take the place of paper and in 1889, after some experimenting, he succeeded in making such a film by means of machinery, which was patented in 1892. By means of this machine the company was able to make a transparent flexible support in lengths, which took the place of paper and which could be printed without transfer. This increased the attractiveness of the art of photography for those who wanted to do their own developing and resulted in a great extension of the business.

In the meantime Thomas A. Edison, who was experimenting with motion pictures, heard that the Eastman company was going to bring out this transparent film and made arrangements to obtain a supply of the first film turned out, to be used in the perfecting of his scheme. That film is substantially the same film that is being used to-day so widely, although improvements have been made in its manufacture from time to time. It is worthy of note right here that Eastman, either alone or in connection with others, has taken out twenty-seven patents covering inventions applicable to photographic processes.

At the time of the introduction of dry plates the photographic business of the country was in the hands of three firms of jobbers in New York city. Most of the materials used were foreign and they were handled through about fifty retail dealers. There were no amateurs to speak of, there being only three or four in Rochester. The successive improvements in dry plates and films enabled the Eastman company to interest 100 and then 1,000 merchants throughout the country in the art, and to-day there are over 12,000 dealers handling photographic goods.

As the business grew it seemed advisable to supply these dealers with the articles, which were used in connection with the films. It was to Eastman's interest that every user of films should have only the best articles for the obvious reason that the better the results obtained by the customers the greater the popularity of the art.

With this object in view the Eastman company took up the manufacture of one article after the other. When Mr. Eastman could not devise a formula the company purchased the best formula in existence. In that way the company acquired some of the best known processes. One of these processes was that of the Seed Dry Plate Company of St. Louis, which had the best formula for the manufacture of gelatin emulsion ever devised. Of course, the Eastman firm continued the manufacture of dry plates, but used the new formula in the making of emulsion for the films.

This marked the beginning of the period of the Eastman company's great expansion. Gradually, by purchasing this or that formula or buying up companies here and there, the Eastman company came to manufacture a full line of photographic materials. Photography is rather peculiar in this respect, that quality counts for everything; an inferior film is not worth anything; it is the best or nothing. Nobody wants to make a poor picture for the sake of saving a trifling expense, and the whole business of the Eastman company is built up with this in view.

The present development of the Eastman Kodak Company's business is along the line of the manufacture of raw material, with a view of still further improving the finished product. To this end it has taken up the making of sulphuric acid, nitric acid, cellulose nitrate, cellulose acetate and gelatin, and is now engaged in the investigation of the manufacture of photographic paper and lenses. The company recently erected at Kodak Park a research laboratory and is gradually organizing a scientific staff under the direction of Dr. C. E. Kenneth Mees, a well known English physicist and chemist, who recently discovered a process of light filtration by which the nearest approach to supplying daylight by artificial means has been made. This discovery has greatly interested the scientific world. He will continue his researches at the Eastman laboratory in Rochester.

Since Mr. Eastman took up the scheme for film photography the development of the company has always been along the lines of spreading the practice of the art to the utmost limits, for making it, first, easy, and, second, cheap. The time has already arrived when the child of 6 or 7 years can make an excellent picture with a camera which costs \$1.

The manufacture of sensitive material is extremely difficult for the reason that the test to which these materials are subjected is the most delicate known, namely the action of light. It is principally for this reason that although in the thirty

years since the introduction of the glass dry plate there have been many manufacturers of photographic supplies in the market only a few have survived. Those who have been successful in making goods of a uniform quality have been financially successful.

It does not lessen the satisfaction of the people connected with the Eastman Kodak Company in their own success to know that so many of their competitors have also met success, largely on account of the broadening of the art through the efforts of the kodak organization.

The company's principal factories are in Rochester, where it employs about 6,800 workmen. There are factories in Chicago, Toronto, Jamestown, N. Y.; Harrow, England, and Melbourne, Australia. It sells its goods largely through dealers, as it has only forty retail stores of its own in this country and Europe out of probably 15,000 stores that handle its product. Altogether all its employees at the present time number more than 10,000.

The rise in Eastman Kodak Company stock in the last six or seven years has been remarkable. Early in 1905 the common stock was quoted at about 12 1/2. To-day in the Rochester Stock Exchange it is hard to purchase more than a few shares at one time. Bids as high as 7 1/2 a share have been made, a few shares changing hands at this price.

Last year the Eastman company paid out about 40 per cent. in dividends and this year the dividends on the common stock will probably amount to the same. Also this year the Eastman company turned to its employees all over the world a bonus on their salaries amounting to about \$400,000. The company is capitalized at \$35,000,000.

To the north of Rochester and not far from the city line is Kodak Park, the home of the kodak industry. It contains nearly seventy-two acres, thirteen of which are laid out in lawns and gardens. There are seventy-two buildings, most of them of fireproof construction, and their entire floor space approximates forty acres of work room. For accommodation of employees a special building has been provided by the company for the noonday lunch in which 2,700 persons can be served at one time.

When the first chimney of the Kodak plant was erected in 1907 it was the tallest structure of its kind in the United States. It is 366 feet high with a diameter of 28 feet at the base and 11 feet at the top, outside dimensions. A second chimney is 366 feet high with a diameter of 31 feet at the base and 15 1/4 feet at the top, outside dimensions. It is said the combined capacity of the two chimneys is equal to from 18,000 to 20,000 boiler horsepower.

**DARING OF RUSSIANS**  
Not far from the sleepy town of Sitka in Alaska there is a spot associated with early Russian history which President Taft has recently set aside as a national reservation. The associations of the place have long been recognized, and during his administration Gov. Brady caused some totem poles to be erected here to mark the spot where the Russians made a successful stand against the natives.

This national reservation was created under the law for the preservation of American antiquities, and as a result fifty-seven acres, through which flows the beautiful Indian River, will be free from settlement or molestation. On this land are the graves of a midshipman and six sailors who perished in the Russian conquest of 1804. The setting aside of this spot is a tribute to Russian daring in the history of the Pacific coast.

Much of the early history of the settlement of Alaska is connected with Gov. Baranoff, that slight, hospitable, roystering adventurer who is a queer mixture of ability, cruelty and gentleness. He went from St. Paul, Alaska, to establish a capital on the island where is now the town of Sitka, and after being handicapped by more ways than one, he won several battles with the natives he finally took possession of the tract which is now a national reservation. He erected fortifications and buildings and started a commercial center for Kushik, Alaska, but he accomplished these things only after much discouragement and loss of life in the long struggle.

The reservation, which is not far from the curving shore of the bay of Sitka, is an approach not surpassed for beauty on the whole Pacific coast. From Sitka to the site of the reservation the Russians laid out a marvellous "avenue" many years ago. It is a walk built along the curving beach, through the woods across and along the banks of the pretty Indian River. Up and down this walk the Russians used to stroll, and present day dwellers in Sitka also make it a resort. Tall ferns run riot along the path. Mosses and lichens cover every log and a second crop of young trees has sprung up under the stately pines, making a rival those of California in height.

Beside the path the grass forms a green carpet. Occasionally a rustic bridge spans the pretty Indian River. Blackberry bushes, rose bushes, white berries and other native shrubs border the walk and ravens creak in the tall trees, while hummingbirds fly from branch to branch. It is like a path in wonderland. At its beginning near the old town is a stone on which tradition asserts Baranoff used to sit and drink until his servants carried him home. The boulder is inscribed with Russian characters.

Long before one reaches Sitka, which faces a bay containing over eighty beautiful rocky or wooded islands, the towering rock of Katadin is seen. On this rock the early Indian chiefs erected their homes and later it was chosen by Baranoff as the site for his Government house. Many stories are told of how Russian men, in a dand and dand, feasted in Baranoff's castle. It is said that a niece of one Governor committed suicide in the old mansion rather than marry a man she did not love and that her lover, a Russian, ended of his own life when he discovered that she had died. There are also stories of a ghost that walked the halls and wailed. The old town was destroyed by fire long ago. The most remarkable evidence of Russian life in the town to-day is the little Greek church, the cathedral of the Archangel Michael. This old wooden building faces the sea and contains several relics. Among the paintings in it is one of the Madonna and Child, the work of a Russian artist. With the exception of the face and hands much of the painting is overlaid with beaten silver. The ravens hover around the little bellry, which is fitted with bells from Spain. Not far away is the Indian rancherie. There are a museum containing Indian relics and a mission school.

It is the scenery around the national reservation that most impresses. From here one can see Mount Edgecumbe, an extinct volcano. A remarkable thing about Sitka is the climate. The thermometer seldom goes below freezing, and the seasons are cool and equable.

